

CLAIMS

1. A support device on a assembly (14) of a first and a second cooled casting rolls (11, 11') with a pair of plates (30, 30') abutted on each end of said pair of rolls (11, 11'), working as an ingot mould (10) for continuous metal strip casting, said
5 first and second rolls (11, 11') having parallel axes and each of them being supported by at least one movable support element (17, 17', 19, 19') near to the axial ends, said movable support elements (17, 17', 19, 19') being suitable for allowing a mutual movement of approaching and distancing of said rolls (11, 11') of said pair, each movable support element (17, 19) associated with the first roll (11)
10 being connected to said assembly by means of its respective hydraulic actuator (18, 18') suitable for thrusting said first roll (11) in the direction of said second roll (11') and suitable for thrusting each support element (17, 17') against an abutting end element (16), each movable support element (17', 19') associated with the second roll (11') being connected to said assembly by actuation means (15, 15'),
15 wherein said actuation means (15, 15') are suitable for making said second roll (11') perform movements of mutual approaching and distancing from said first roll (11), and that between each movable support element (17, 17', 19, 19') and said assembly (14) at least one respective hydraulic bearing (13, 13') is provided suitable for allowing sliding movement of each of said movable support elements
20 (17, 17', 19, 19') with respect to said assembly (14).
2. The device according to claim 1, wherein said actuation means (15) are constituted by a magnetostrictive actuator.
3. The device according to claim 2, wherein at least one joint (20) supporting the cooling liquid conduit between said rolls (11, 11') and said assembly suitable
25 for recovering displacements in an orthogonal direction to the axes of said rolls (11, 11') is provided.
4. The device according to claim 3, wherein said joint (20) comprises a telescopic tube (21) inserted substantially horizontally in a housing (22) connected to said assembly, said tube being suitable for sliding along its own axis in said
30 housing.
5. The device according to claim 4, wherein a bellows or a compensator (27) is set between said assembly and said housing.

6. The device according to claim 5, wherein an abutment means (25, 26) is provided to limit the displacements of said housing in the direction of the axis of said telescopic tube (21).

7. A method for controlling and adjusting the axial distance of the casting rolls (11, 11') for a continuous metallic strip casting implemented with the device of claim 1 comprising the following stages:

a) operating said hydraulic actuator (18, 18') to make a first roll (11) approach in the direction of the second roll (11') until at least one respective movable support element (17, 19) associated with the first roll (11) is in close contact against an abutting end element (16).

b) providing control and adjustment means suitable for emitting control signals to the actuation means (15, 15') depending on the signals received relevant to suitable process parameters;

c) operating the actuation means (15, 15') to apply a force onto the movable supports (17, 19') associated with the second roll (11') in the direction of a mutual approaching to or of a distancing from the first roll (11) by sliding on at least a respective hydraulic bearing (13, 13') depending on the intensity variation of the roll separation force, so that the minimum gap between the rolls (11, 11') is kept constant.

8. The method according to claim 7, wherein the control system varies the intensity of the magnetic fields either to elongate or shorten magnetostrictive bars comprised in said actuation means (15) as a function of the intensity variation of the separation force.